Export Finance Systems Inc. Information Technology Plan Review:

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Background:

Export Finance Systems, Inc. (EFS) has been using a stand-alone computer application, Accounts Receivable Tracking System (ARTS) to conduct its business. The ARTS is based on Microsoft Access Relational Database software. As the business shows significant potential for growth, EFS is starting to layout plans to:

1. Migrate single user ARTS application to a more robust, multi-user SQL Server, release 7, application which, in addition to processing transactions, will function as a data store.

2. Use Internet as the basic element of connectivity that would enable its customers and business partners to conduct their business in a reliable and dynamic, real time fashion.

3. Develop the user interface in Visual Basic 6.0, running as an Active Document under Microsoft Internet Explorer 4.0 or 5.0.

I have been asked by the EFS management to conduct an independent review of its IT plans. By necessity, my review was brief. It was based on the demo of the existing system, discussions with Bob Martin and Andrew Goodman and the review of the following documents:

1. Export Finance Systems, Inc. April 1999 Business Plan

2. Buchanan Investments Executive Summary.

3. Export Finance Systems, Inc., Version 3, Technical Platform. April 3, 1999.

4. ARTS User's Manual dated November 1998.

5. InfoRespond documents:

    *   Development Practice Requirements, January 22, 1999

    *   Development Practice Specifications, January 29, 1999

    *   Visual Basic/VBA Programming

Review Results and Observations:

☐ EFS' approach and investment in IT tools is clearly driven by its business vision and objectives.

☐ As a subtle but significant difference from many other companies, small and large, the Accounts Receivables Tracking System was designed by the company Principals. The enthusiasm and very detailed knowledge of system functions exhibited by the Chief Operating Officer is rare and remarkable.

☐ InfoRespond, a small but very capable company, is a good choice to develop the new version of the ARTS. Andrew Goodman is an energetic and experienced manager. I particularly liked his pragmatic approach and apparent commitment to understand customer business needs and deliver high quality, reliable product. I find the mutual respect between Andrew and Bob Martin refreshing and critically important for the success of the mission.

☐ Planned system migration to Microsoft SQL Server 7.0, Internet based connectivity with the customers and partners is reasonable and well thought out.

☐ Design principle to build the simplest user interface (software residing on customer's desktop) is very prudent. Ease of software installation and quick learning are very appealing and important for system acceptance and desired robust performance.

Industry wide Lessons Learned:

Above compares rather favorably with the case studies of companies which have successfully harnessed the full potential of Information Technology (IT):

1. IT must be driven from the top, executive level, as it is an enabler of business strategy.

2. IT applications must fit the business work process. Improvements in one must be supportable by the other.

3. Skills required to use IT products effectively and efficiently must be reasonably easy to acquire through training...

☐ Multi-user functionality is a business "must" as the number of customers grows.

☐ The use of inexpensive Intel Pentium servers running Windows NT and linear scalability (adding additional servers as the need grows) is adequate to achieve the Business Plan's client levels as currently contemplated. However, as the number of customers grows, the Technology Plan should be revisited for a potential migration to another platform.

❑ Staying away from the fancy, and expensive, world of "seamless integration", planned use of delimited text files, as vehicles of data exchange are prudent, practical and much more cost effective.

Recommendations:

❑ Since it is the intention of EFS for ARTS to reach the desired "industrial strength" performance and reliability as befits a "mission critical system", I see the need, immediately post-funding, for creation of a complete and a thorough Technology Plan. The Plan would document the current state and direction as well as assess functional requirements and rough plans for the future. The creation of the Plan should be the highest priority of management and should be the subject of the Board approval.

❑ System Operation, Support and Maintenance: Even a single server containing customer sensitive data must be housed and operated in a secure, professionally managed environment – the Data Center – that has the following:

> Temperature controlled environment

> Un-interruptible Power Supply (UPS)

> Fire Detection & Suppression

> Bolting and other provisions to withstand earthquake

> Secure Access & Egress, Secure Data

> Data backups and archival

> Hardware and networks maintenance personnel

Industry wide Lessons Learned:

IT requires rigor and discipline throughout the life cycle of a product... computers are totally unforgiving to even the simplest errors or omissions...

❑ The Technology Plan should deal with the issue of the Data Center "Buy vs. Build". As pointed above, EFS must have a professionally run Data Center. Frequently, it is cheaper to outsource Data Center to one of the many companies that offer that service. If the evaluation favors the "Buy" direction, the selection of the Supplier of service requires considerable care:

> Some of the service providers may not be willing or able to meet security requirements of EFS.

> Other service levels such as: system availability (up time), performance (time to access records or update database), time to recover from an outage, maintenance windows (when the system is down), etc. need to be negotiated and will influence price.

❑ Although the EFS system architecture contemplates a high level Disaster Recovery or Business Continuity plan, these plans need to be more fully developed as part of the detailed Technology Plan

❑ As EFS grows it will need additional software to conduct its business. Marketing, Financial & Accounting Systems, Human Resources, Legal etc. While it is obviously too early to spend resources on these systems, the Technology Plan should establish a framework for future decisions.

❑ The Technology Plan should address the current and future skilled human resource requirements for total system maintenance, user training and support (Help Desk and dispatched – desk side in rare but critical instances).

❑ The Technology Plan should start dealing with connectivity. One of the more challenging and frequently underestimated aspects of establishing reliable and fast connectivity is the "proprietary behavior of internal IS departments. Early planning to offer Virtual Private Network (VPN) capability may go a long way in addressing or even avoiding potential customer concerns.

Please find attached

1) Resume of Robert S. Trickovic

2) EFS Version 3 Technical Platform

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Bob Trickovic

Summary of qualifications

35 years of successful experience in Manufacturing, Electric Utility and Engineering/Construction Industries. Last 30 years worked for Bechtel Corporation in a variety of progressively increasing responsibilities: from Design Engineer to Project Engineer, Chief Electrical/Control Systems and Engineering Manager in a division with over 2,000 engineers. During this period, he led successful completion of Licensing, Engineering and Design of a $5 Billion Nuclear Power Plant. One of the key leaders in successfully transitioning Bechtel business model from the traditional T&M (Time and Materials) to the riskier but more profitable Turnkey - Lump Sum. Last 14 years, as a MIS Director, led successful migration of Bechtel's global computing infrastructure from the Main Frame to the wide area network based client-server environment. One of the earliest adopters of Internet/Intranet technologies in E&C industry. Extensive experience in engineering software development and implementation management. As a buyer of computing capacity and desktop services, negotiated three outsourcing contracts exceeding $100 MM.

Education

1962 BS Electrical Engineering   University Of Belgrade, Yugoslavia
1977 MBA   Golden Gate University, San Francisco

Professional memberships

- Conference Board – **Council of North American Information Technology Executives**

- Past member of IEEE (Institute of Electrical and Electronics Engineers)